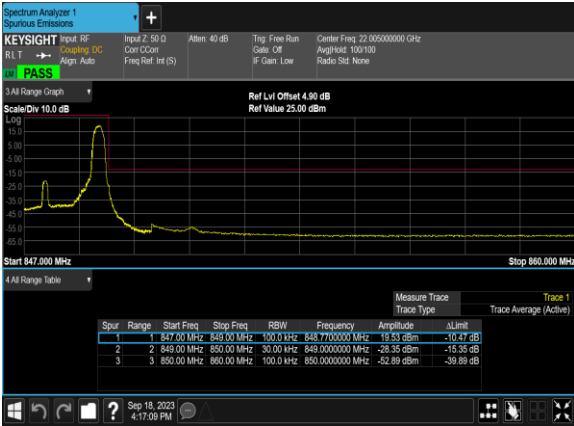
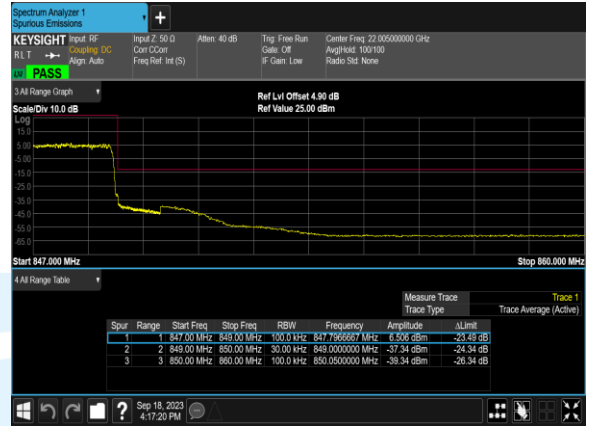


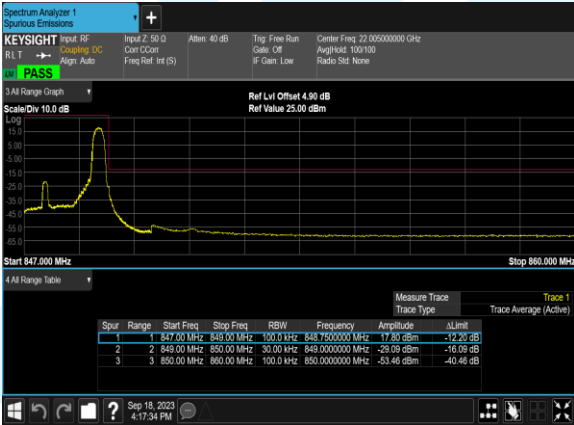
B5\_3M\_QPSK\_1@14\_CH\_20635



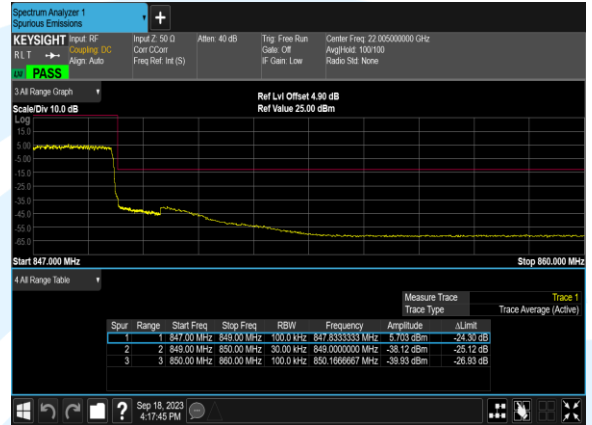
B5\_3M\_QPSK\_15@0\_CH\_20635



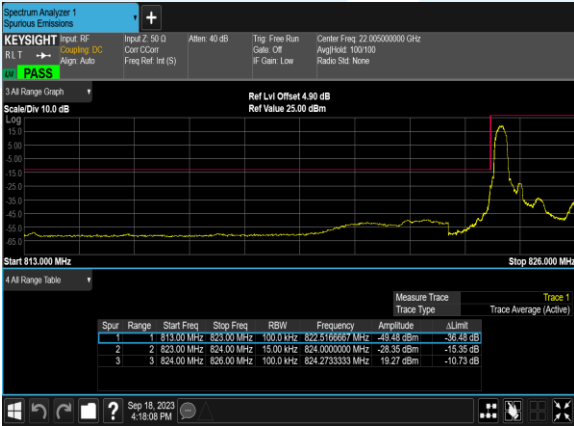
B5\_3M\_16QAM\_1@14\_CH\_20635



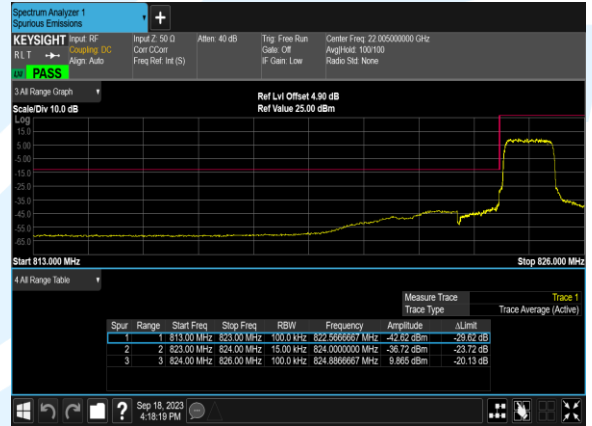
B5\_3M\_16QAM\_15@0\_CH\_20635



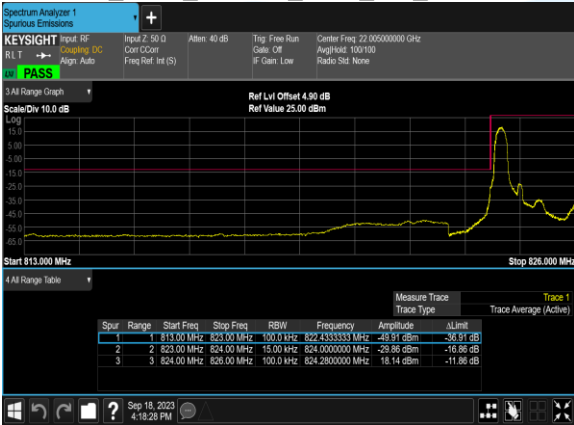
B5\_1.4M\_QPSK\_1@0\_CH\_20407



B5\_1.4M\_QPSK\_6@0\_CH\_20407



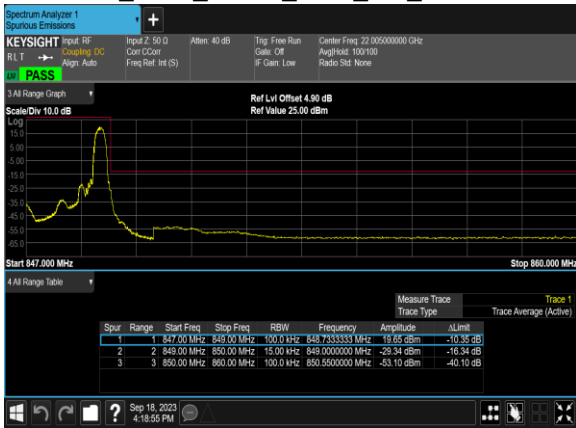
B5\_1.4M\_16QAM\_1@0\_CH\_20407



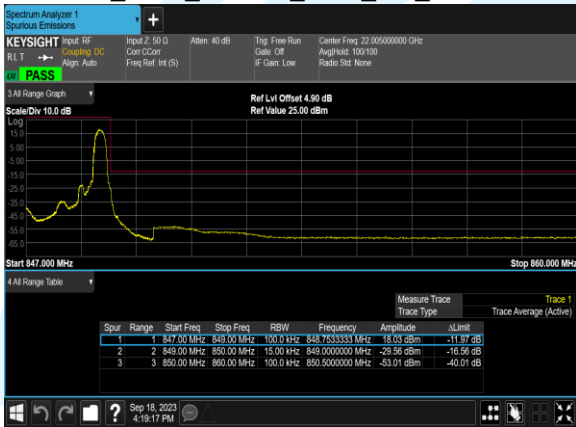
B5\_1.4M\_16QAM\_6@0\_CH\_20407



B5\_1.4M\_QPSK\_1@5\_CH\_20643



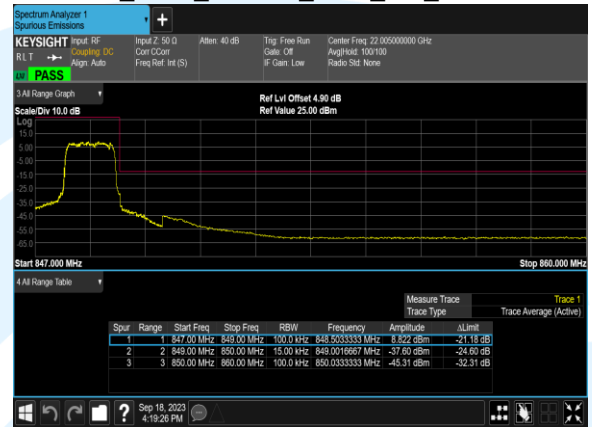
B5\_1.4M\_16QAM\_1@5\_CH\_20643



B5\_1.4M\_QPSK\_6@0\_CH\_20643



B5\_1.4M\_16QAM\_6@0\_CH\_20643



### A.4 LTE BAND 12

#### Peak to Average Ratio

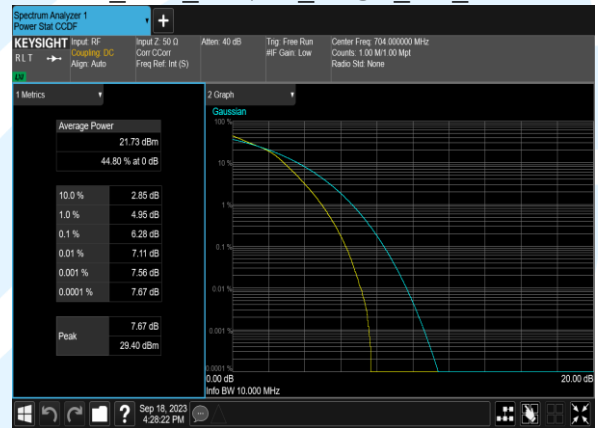
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dB)	Limit (dB)	Verdict
12	10.0	23060	704.0	QPSK	50@0	5.52	13	PASS
12	10.0	23060	704.0	16QAM	50@0	6.28	13	PASS
12	10.0	23095	707.5	QPSK	50@0	5.63	13	PASS
12	10.0	23095	707.5	16QAM	50@0	6.28	13	PASS
12	10.0	23130	711.0	QPSK	50@0	5.44	13	PASS
12	10.0	23130	711.0	16QAM	50@0	6.19	13	PASS
12	5.0	23035	701.5	QPSK	25@0	5.47	13	PASS
12	5.0	23035	701.5	16QAM	25@0	6.15	13	PASS
12	5.0	23095	707.5	QPSK	25@0	5.63	13	PASS
12	5.0	23095	707.5	16QAM	25@0	6.23	13	PASS
12	5.0	23155	713.5	QPSK	25@0	5.51	13	PASS
12	5.0	23155	713.5	16QAM	25@0	6.25	13	PASS
12	3.0	23025	700.5	QPSK	15@0	5.46	13	PASS
12	3.0	23025	700.5	16QAM	15@0	6.20	13	PASS
12	3.0	23095	707.5	QPSK	15@0	5.60	13	PASS
12	3.0	23095	707.5	16QAM	15@0	6.38	13	PASS
12	3.0	23165	714.5	QPSK	15@0	5.38	13	PASS
12	3.0	23165	714.5	16QAM	15@0	6.22	13	PASS
12	1.4	23017	699.7	QPSK	6@0	5.36	13	PASS
12	1.4	23017	699.7	16QAM	6@0	6.16	13	PASS
12	1.4	23095	707.5	QPSK	6@0	5.50	13	PASS
12	1.4	23095	707.5	16QAM	6@0	6.26	13	PASS
12	1.4	23173	715.3	QPSK	6@0	5.42	13	PASS
12	1.4	23173	715.3	16QAM	6@0	6.25	13	PASS

#### Test Graphs

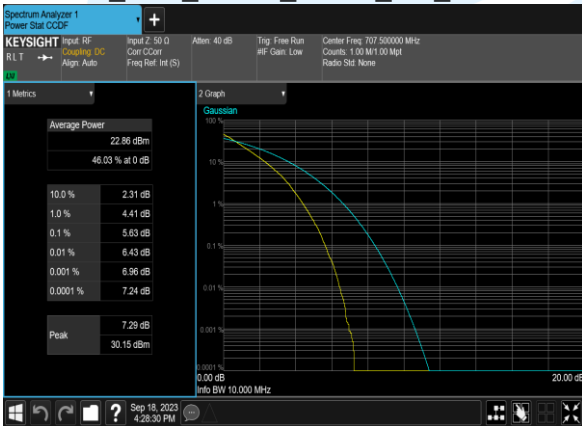
B12\_10M\_QPSK\_50@0\_CH\_23060



B12\_10M\_16QAM\_50@0\_CH\_23060



B12\_10M\_QPSK\_50@0\_CH\_23095



B12\_10M\_16QAM\_50@0\_CH\_23095



B12\_10M\_QPSK\_50@0\_CH\_23130



B12\_10M\_16QAM\_50@0\_CH\_23130



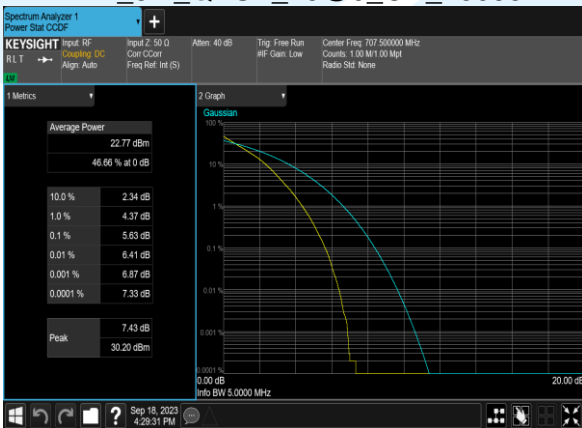
B12\_5M\_QPSK\_25@0\_CH\_23035



B12\_5M\_16QAM\_25@0\_CH\_23035



B12\_5M\_QPSK\_25@0\_CH\_23095



B12\_5M\_16QAM\_25@0\_CH\_23095



B12\_5M\_QPSK\_25@0\_CH\_23155



B12\_5M\_16QAM\_25@0\_CH\_23155



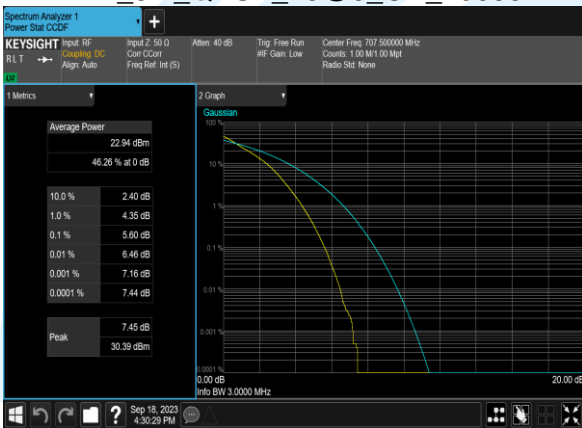
B12\_3M\_QPSK\_15@0\_CH\_23025



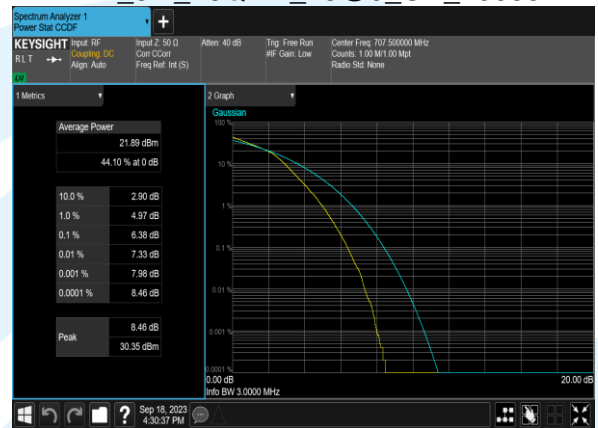
B12\_3M\_16QAM\_15@0\_CH\_23025



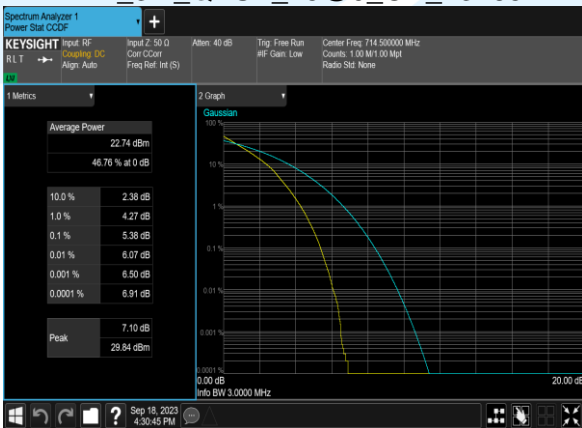
B12\_3M\_QPSK\_15@0\_CH\_23095



B12\_3M\_16QAM\_15@0\_CH\_23095



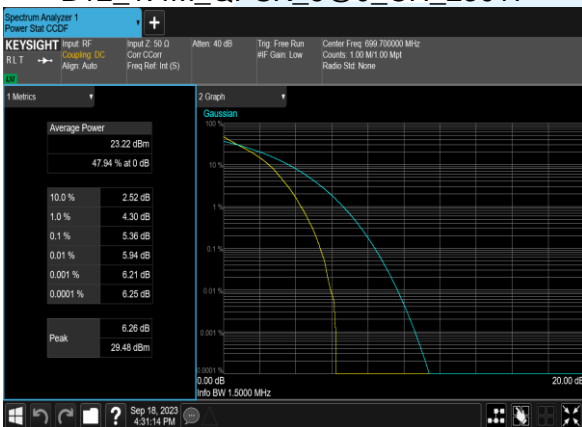
B12\_3M\_QPSK\_15@0\_CH\_23165



B12\_3M\_16QAM\_15@0\_CH\_23165



B12\_1.4M\_QPSK\_6@0\_CH\_23017



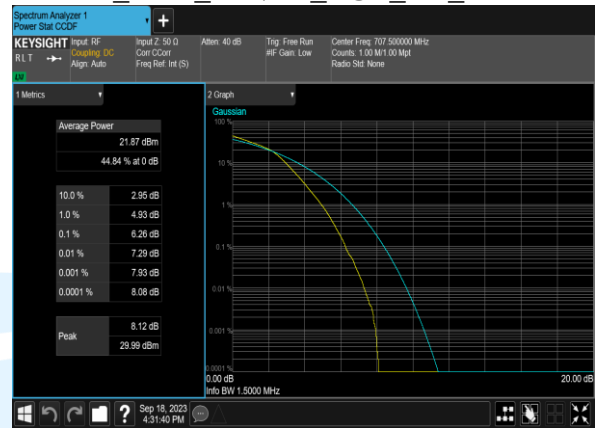
B12\_1.4M\_16QAM\_6@0\_CH\_23017



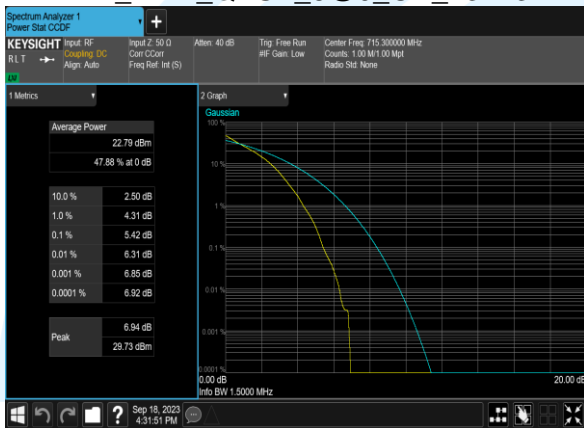
B12\_1.4M\_QPSK\_6@0\_CH\_23095



B12\_1.4M\_16QAM\_6@0\_CH\_23095



B12\_1.4M\_QPSK\_6@0\_CH\_23173



B12\_1.4M\_16QAM\_6@0\_CH\_23173

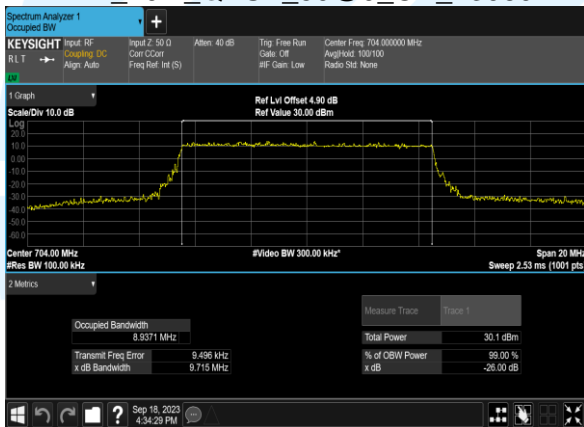


## Occupied Bandwidth

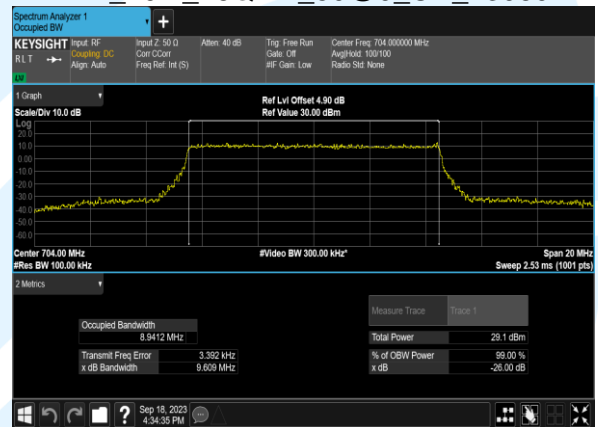
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	OBW (MHz)	26dB BW (MHz)
12	10.0	23060	704.0	QPSK	50@0	8.9371	9.715
12	10.0	23060	704.0	16QAM	50@0	8.9412	9.609
12	10.0	23095	707.5	QPSK	50@0	8.9672	9.758
12	10.0	23095	707.5	16QAM	50@0	8.9481	9.970
12	10.0	23130	711.0	QPSK	50@0	8.9601	9.721
12	10.0	23130	711.0	16QAM	50@0	8.9312	9.951
12	5.0	23035	701.5	QPSK	25@0	4.4615	4.955
12	5.0	23035	701.5	16QAM	25@0	4.4638	5.013
12	5.0	23095	707.5	QPSK	25@0	4.4708	5.016
12	5.0	23095	707.5	16QAM	25@0	4.4707	4.984
12	5.0	23155	713.5	QPSK	25@0	4.4688	4.974
12	5.0	23155	713.5	16QAM	25@0	4.4667	5.001
12	3.0	23025	700.5	QPSK	15@0	2.6803	2.837
12	3.0	23025	700.5	16QAM	15@0	2.6697	2.836
12	3.0	23095	707.5	QPSK	15@0	2.6751	2.840
12	3.0	23095	707.5	16QAM	15@0	2.6726	2.829
12	3.0	23165	714.5	QPSK	15@0	2.6698	2.841
12	3.0	23165	714.5	16QAM	15@0	2.6743	2.845
12	1.4	23017	699.7	QPSK	6@0	1.0769	1.216
12	1.4	23017	699.7	16QAM	6@0	1.0751	1.233
12	1.4	23095	707.5	QPSK	6@0	1.0760	1.232
12	1.4	23095	707.5	16QAM	6@0	1.0795	1.296
12	1.4	23173	715.3	QPSK	6@0	1.0801	1.246
12	1.4	23173	715.3	16QAM	6@0	1.0751	1.198

## Test Graphs

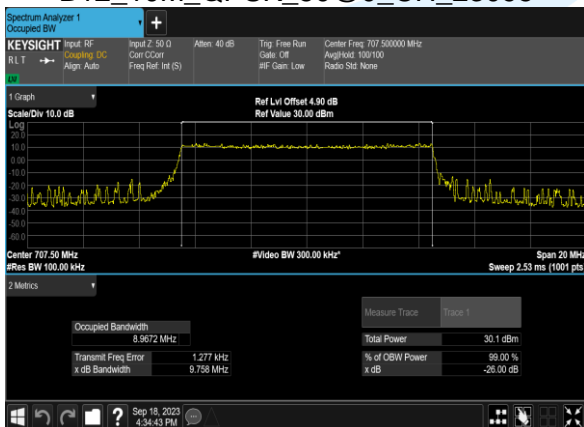
B12\_10M\_QPSK\_50@0\_CH\_23060



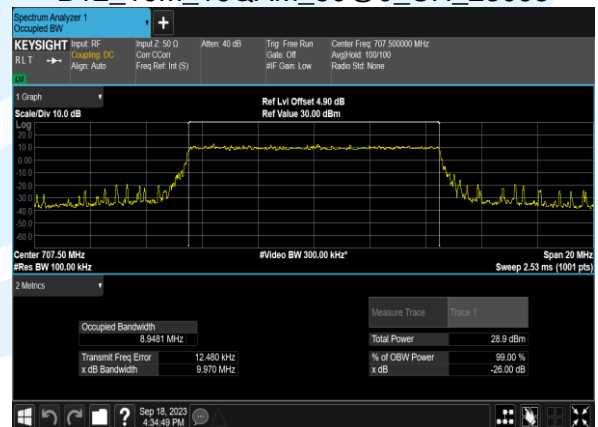
B12\_10M\_16QAM\_50@0\_CH\_23060



B12\_10M\_QPSK\_50@0\_CH\_23095

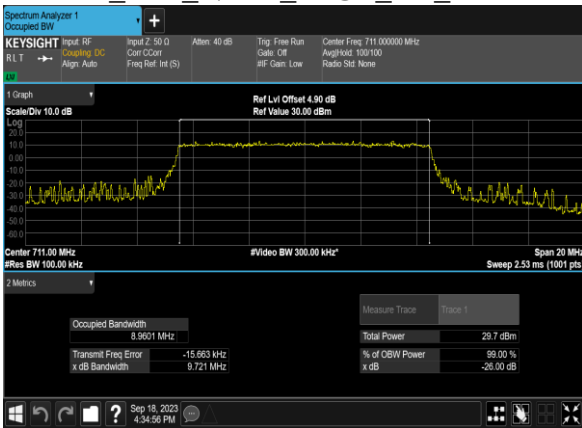


B12\_10M\_16QAM\_50@0\_CH\_23095





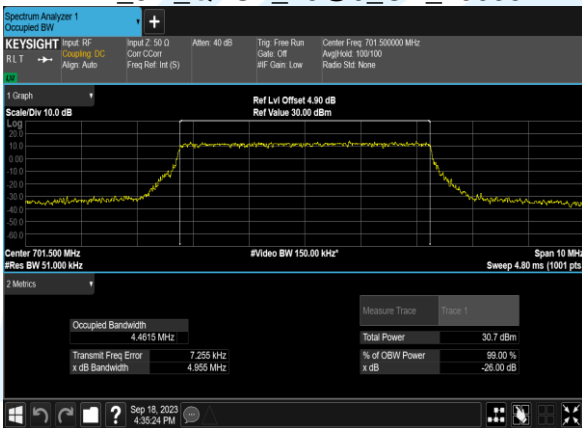
B12\_10M\_QPSK\_50@0\_CH\_23130



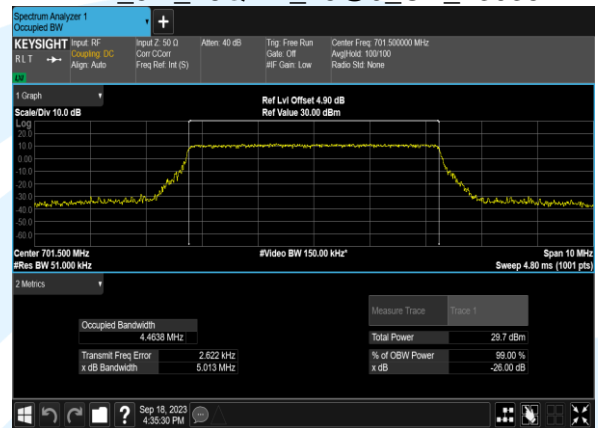
B12\_10M\_16QAM\_50@0\_CH\_23130



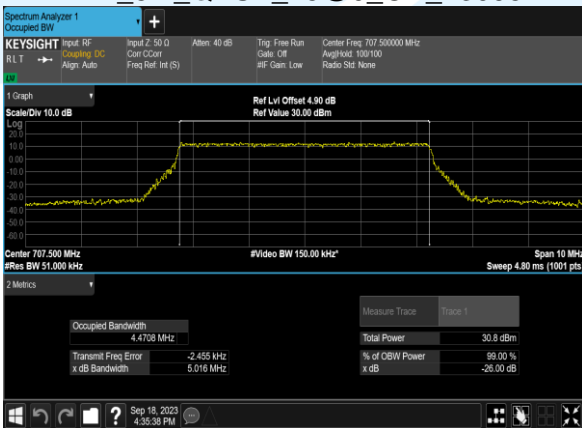
B12\_5M\_QPSK\_25@0\_CH\_23035



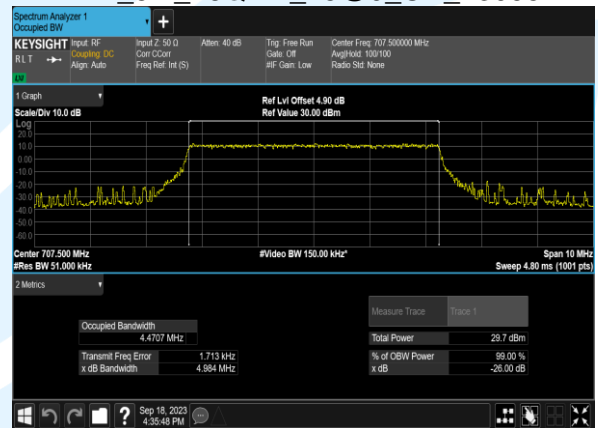
B12\_5M\_16QAM\_25@0\_CH\_23035



B12\_5M\_QPSK\_25@0\_CH\_23095



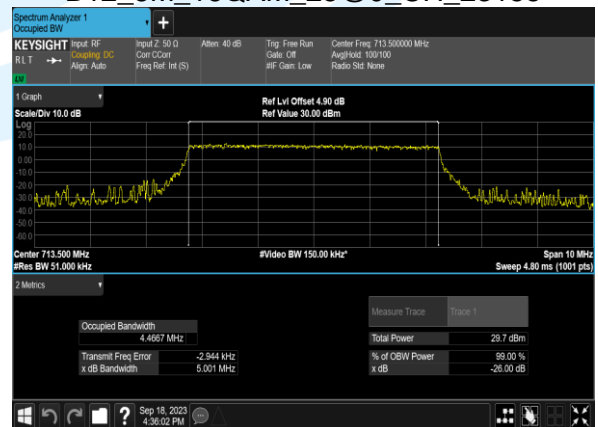
B12\_5M\_16QAM\_25@0\_CH\_23095



B12\_5M\_QPSK\_25@0\_CH\_23155

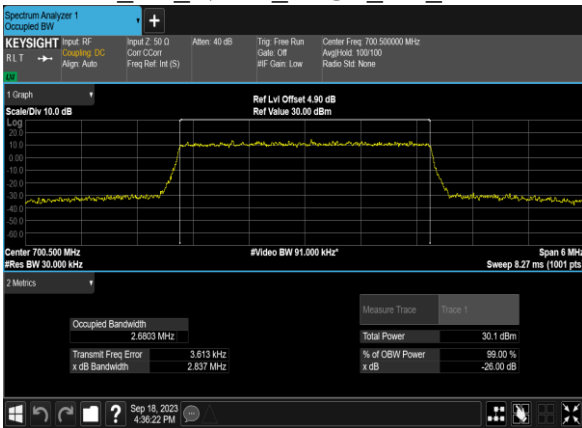


B12\_5M\_16QAM\_25@0\_CH\_23155

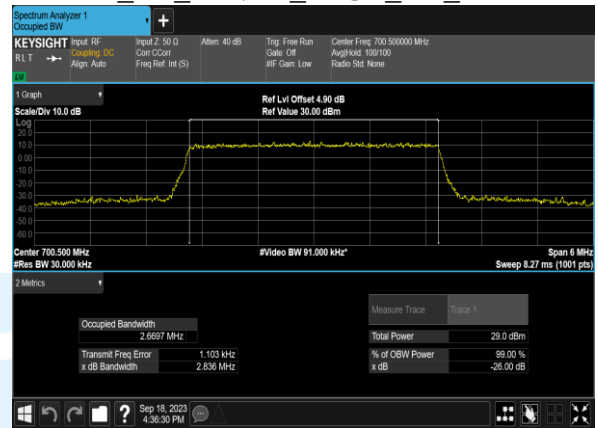




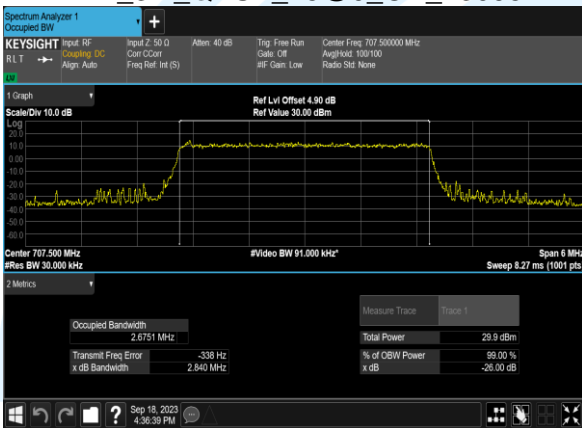
B12\_3M\_QPSK\_15@0\_CH\_23025



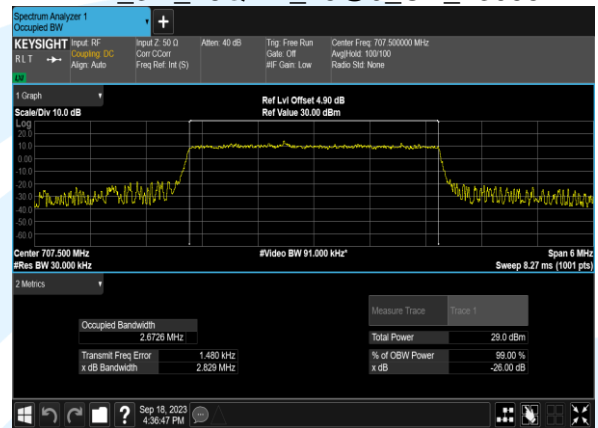
B12\_3M\_16QAM\_15@0\_CH\_23025



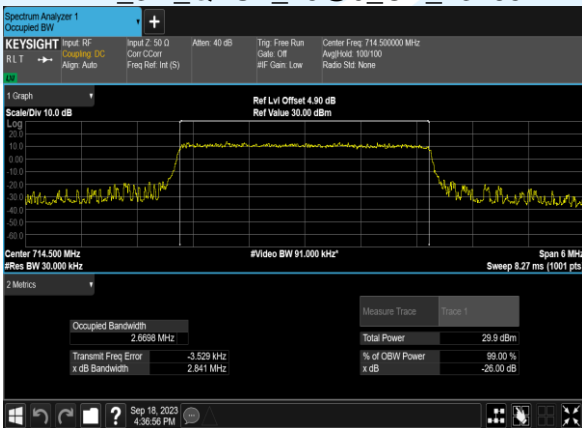
B12\_3M\_QPSK\_15@0\_CH\_23095



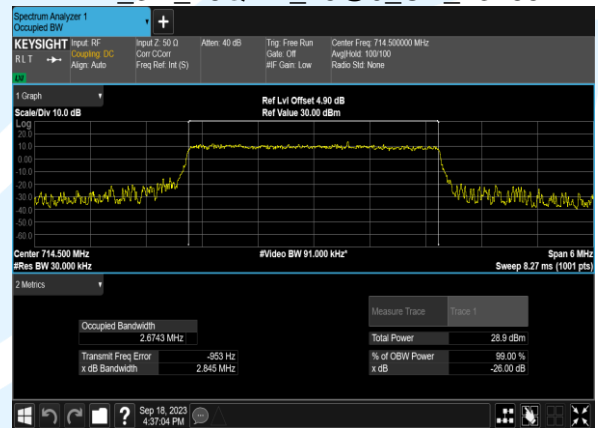
B12\_3M\_16QAM\_15@0\_CH\_23095



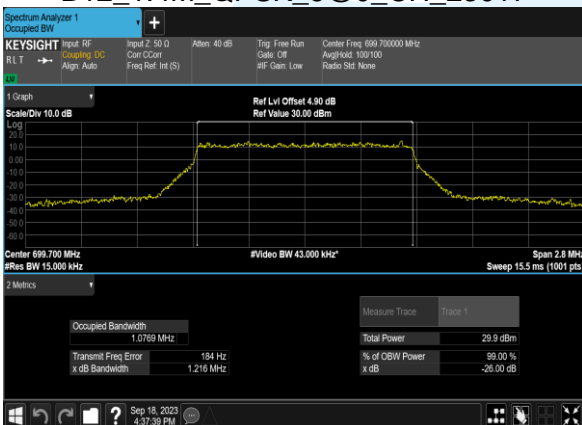
B12\_3M\_QPSK\_15@0\_CH\_23165



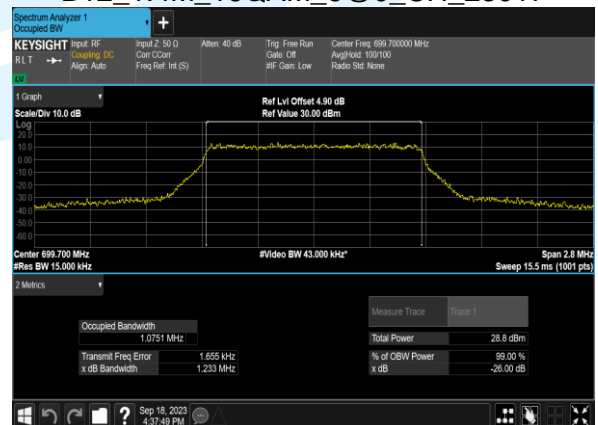
B12\_3M\_16QAM\_15@0\_CH\_23165



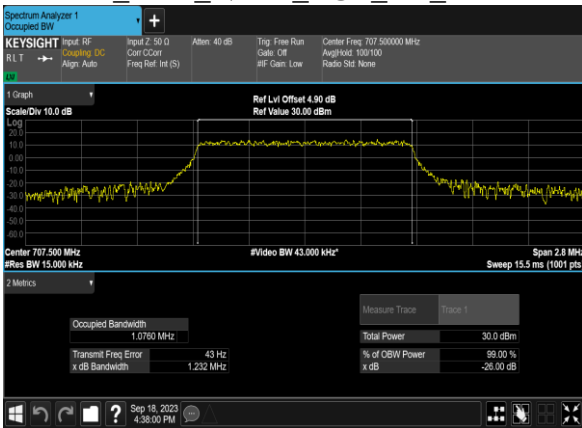
B12\_1.4M\_QPSK\_6@0\_CH\_23017



B12\_1.4M\_16QAM\_6@0\_CH\_23017



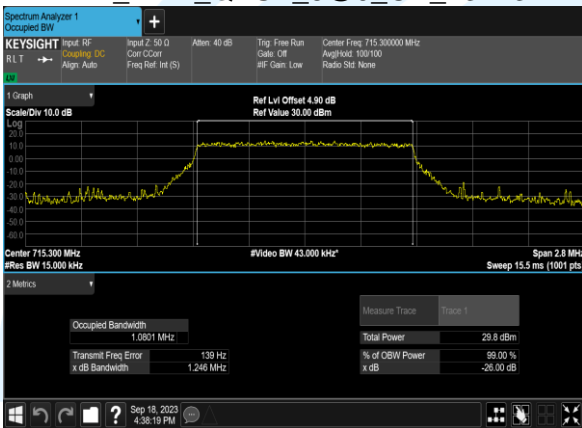
B12\_1.4M\_QPSK\_6@0\_CH\_23095



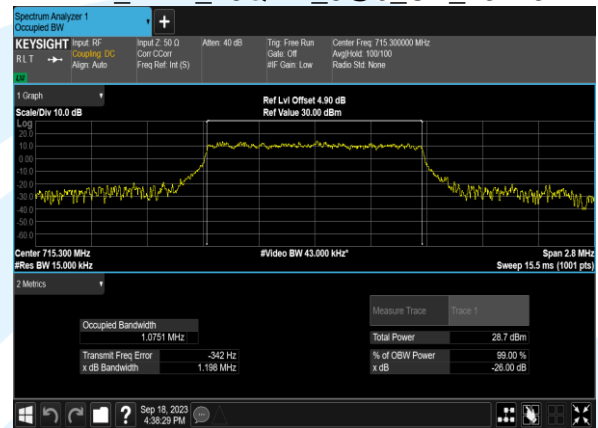
B12\_1.4M\_16QAM\_6@0\_CH\_23095



B12\_1.4M\_QPSK\_6@0\_CH\_23173



B12\_1.4M\_16QAM\_6@0\_CH\_23173

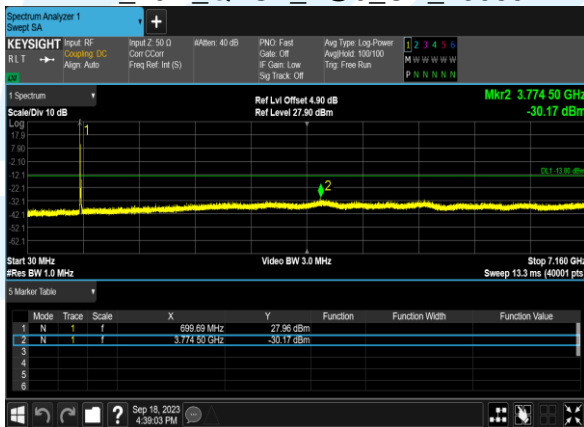


## Conducted Spurious Emissions

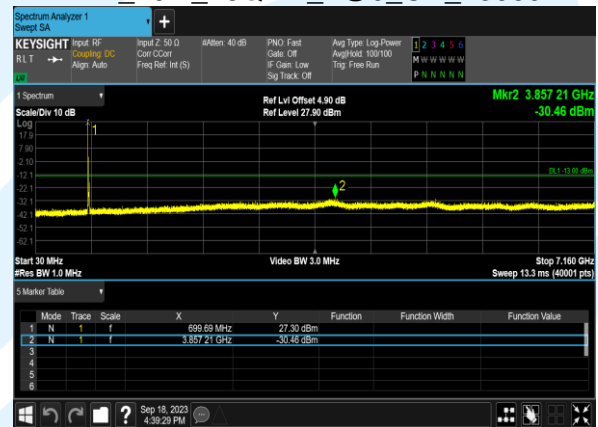
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result (dBm)	Limit (dBm)	Verdict
12	10.0	23060	704.0	QPSK	1@0	-30.17	-13	PASS
12	10.0	23060	704.0	16QAM	1@0	-30.46	-13	PASS
12	10.0	23095	707.5	QPSK	1@0	-29.93	-13	PASS
12	10.0	23095	707.5	16QAM	1@0	-29.98	-13	PASS
12	10.0	23130	711.0	QPSK	1@0	-30.9	-13	PASS
12	10.0	23130	711.0	16QAM	1@0	-30.46	-13	PASS
12	5.0	23035	701.5	QPSK	1@0	-29.52	-13	PASS
12	5.0	23035	701.5	16QAM	1@0	-30.64	-13	PASS
12	5.0	23095	707.5	QPSK	1@0	-30.75	-13	PASS
12	5.0	23095	707.5	16QAM	1@0	-30.77	-13	PASS
12	5.0	23155	713.5	QPSK	1@0	-30.54	-13	PASS
12	5.0	23155	713.5	16QAM	1@0	-30.38	-13	PASS
12	3.0	23025	700.5	QPSK	1@0	-30.21	-13	PASS
12	3.0	23025	700.5	16QAM	1@0	-30.44	-13	PASS
12	3.0	23095	707.5	QPSK	1@0	-31.01	-13	PASS
12	3.0	23095	707.5	16QAM	1@0	-30.61	-13	PASS
12	3.0	23165	714.5	QPSK	1@0	-30.83	-13	PASS
12	3.0	23165	714.5	16QAM	1@0	-30.77	-13	PASS
12	1.4	23017	699.7	QPSK	1@0	-30.13	-13	PASS
12	1.4	23017	699.7	16QAM	1@0	-31.13	-13	PASS
12	1.4	23095	707.5	QPSK	1@0	-30.88	-13	PASS
12	1.4	23095	707.5	16QAM	1@0	-30.54	-13	PASS
12	1.4	23173	715.3	QPSK	1@0	-31.1	-13	PASS
12	1.4	23173	715.3	16QAM	1@0	-30.66	-13	PASS

## Test Graphs

B12\_10M\_QPSK\_1@0\_CH\_23060



B12\_10M\_16QAM\_1@0\_CH\_23060



B12\_10M\_QPSK\_1@0\_CH\_23095



B12\_10M\_16QAM\_1@0\_CH\_23095



B12\_10M\_QPSK\_1@0\_CH\_23130



B12\_10M\_16QAM\_1@0\_CH\_23130



B12\_5M\_QPSK\_1@0\_CH\_23035



B12\_5M\_16QAM\_1@0\_CH\_23035



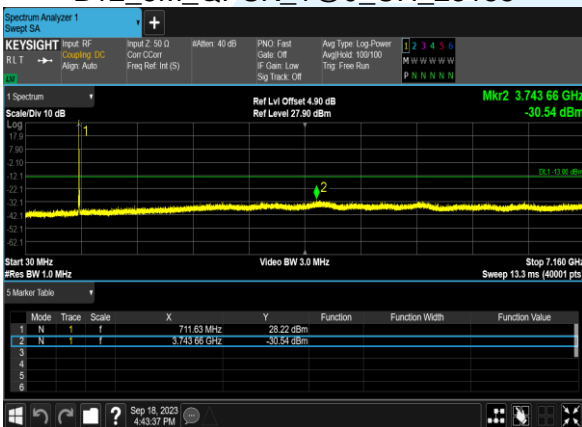
B12\_5M\_QPSK\_1@0\_CH\_23095



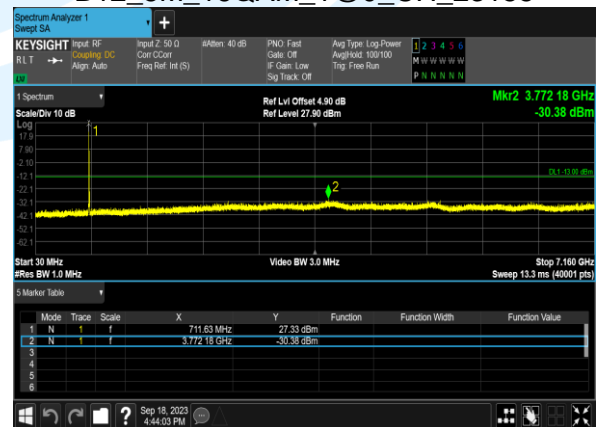
B12\_5M\_16QAM\_1@0\_CH\_23095



B12\_5M\_QPSK\_1@0\_CH\_23155



B12\_5M\_16QAM\_1@0\_CH\_23155



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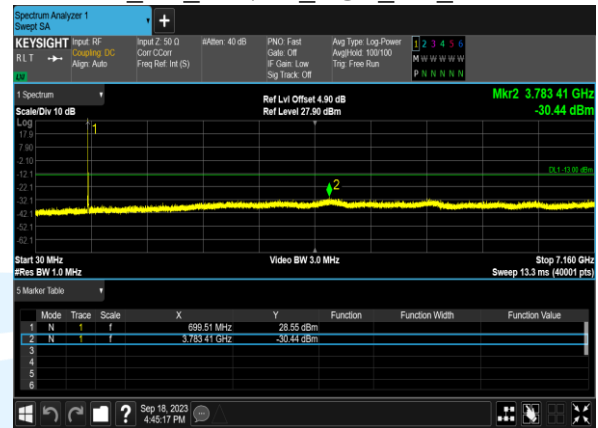
<http://www.uttlab.com>

UTTR-RF-FCC4G-V1.1

B12\_3M\_QPSK\_1@0\_CH\_23025



B12\_3M\_16QAM\_1@0\_CH\_23025



B12\_3M\_QPSK\_1@0\_CH\_23095



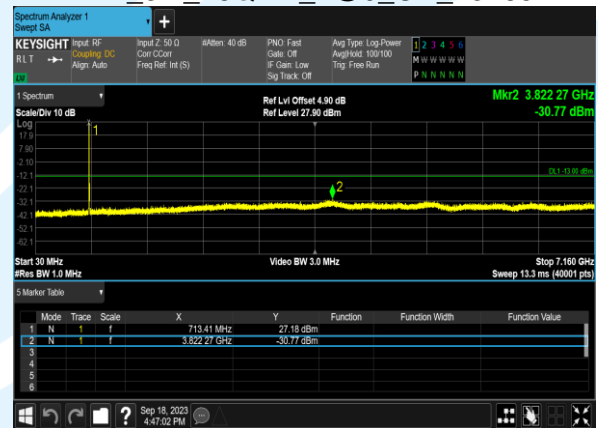
B12\_3M\_16QAM\_1@0\_CH\_23095



B12\_3M\_QPSK\_1@0\_CH\_23165



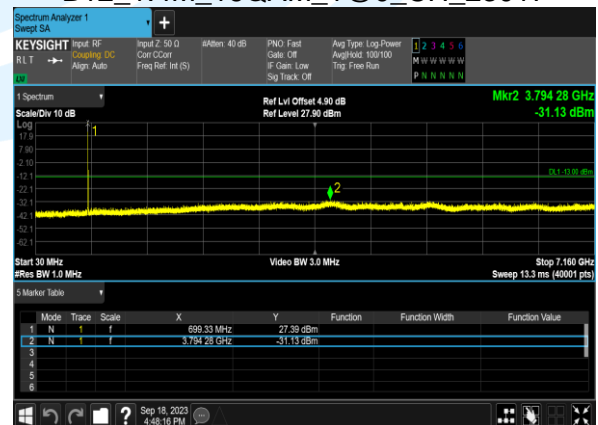
B12\_3M\_16QAM\_1@0\_CH\_23165



B12\_1.4M\_QPSK\_1@0\_CH\_23017



B12\_1.4M\_16QAM\_1@0\_CH\_23017



B12\_1.4M\_QPSK\_1@0\_CH\_23095



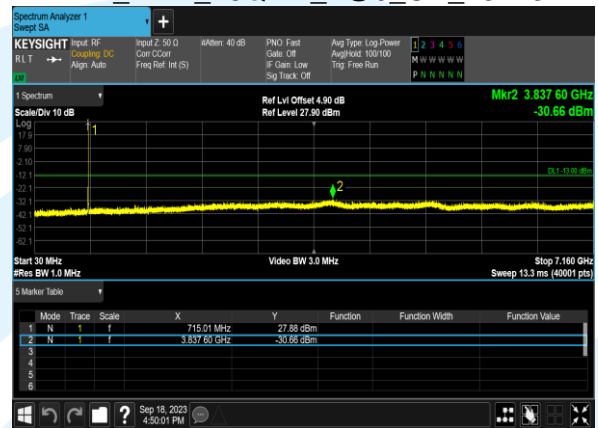
B12\_1.4M\_16QAM\_1@0\_CH\_23095



B12\_1.4M\_QPSK\_1@0\_CH\_23173



B12\_1.4M\_16QAM\_1@0\_CH\_23173

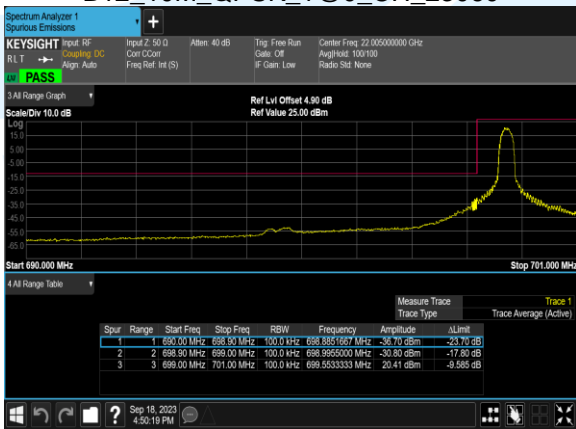


## Conducted Band Edge

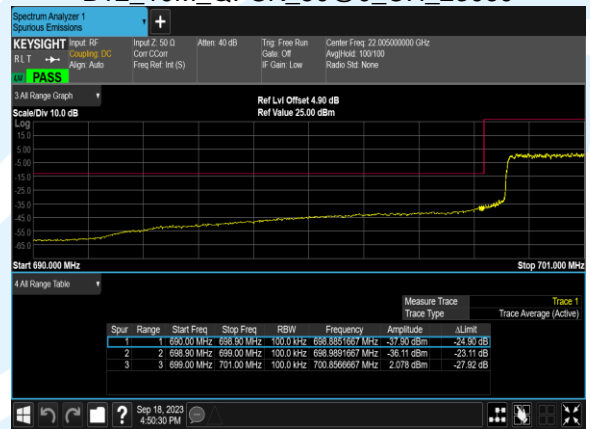
Band	Bandwidth (MHz)	Channel	Freq (MHz)	Modulation	RB	Result	Verdict
12	10.0	23060	704.0	QPSK	1@0	see graph	PASS
12	10.0	23060	704.0	QPSK	50@0	see graph	PASS
12	10.0	23060	704.0	16QAM	1@0	see graph	PASS
12	10.0	23060	704.0	16QAM	50@0	see graph	PASS
12	10.0	23130	711.0	QPSK	1@49	see graph	PASS
12	10.0	23130	711.0	QPSK	50@0	see graph	PASS
12	10.0	23130	711.0	16QAM	1@49	see graph	PASS
12	10.0	23130	711.0	16QAM	50@0	see graph	PASS
12	5.0	23035	701.5	QPSK	1@0	see graph	PASS
12	5.0	23035	701.5	QPSK	25@0	see graph	PASS
12	5.0	23035	701.5	16QAM	1@0	see graph	PASS
12	5.0	23035	701.5	16QAM	25@0	see graph	PASS
12	5.0	23155	713.5	QPSK	1@24	see graph	PASS
12	5.0	23155	713.5	QPSK	25@0	see graph	PASS
12	5.0	23155	713.5	16QAM	1@24	see graph	PASS
12	5.0	23155	713.5	16QAM	25@0	see graph	PASS
12	3.0	23025	700.5	QPSK	1@0	see graph	PASS
12	3.0	23025	700.5	QPSK	15@0	see graph	PASS
12	3.0	23025	700.5	16QAM	1@0	see graph	PASS
12	3.0	23025	700.5	16QAM	15@0	see graph	PASS
12	3.0	23165	714.5	QPSK	1@14	see graph	PASS
12	3.0	23165	714.5	QPSK	15@0	see graph	PASS
12	3.0	23165	714.5	16QAM	1@14	see graph	PASS
12	3.0	23165	714.5	16QAM	15@0	see graph	PASS
12	1.4	23017	699.7	QPSK	1@0	see graph	PASS
12	1.4	23017	699.7	QPSK	6@0	see graph	PASS
12	1.4	23017	699.7	16QAM	1@0	see graph	PASS
12	1.4	23017	699.7	16QAM	6@0	see graph	PASS
12	1.4	23173	715.3	QPSK	1@5	see graph	PASS
12	1.4	23173	715.3	QPSK	6@0	see graph	PASS
12	1.4	23173	715.3	16QAM	1@5	see graph	PASS
12	1.4	23173	715.3	16QAM	6@0	see graph	PASS

## Test Graphs

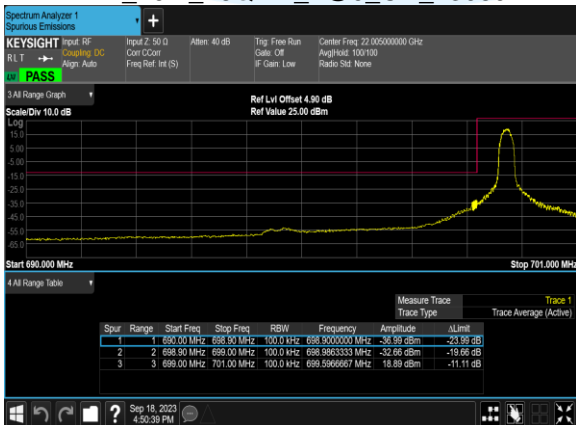
B12\_10M\_QPSK\_1@0\_CH\_23060



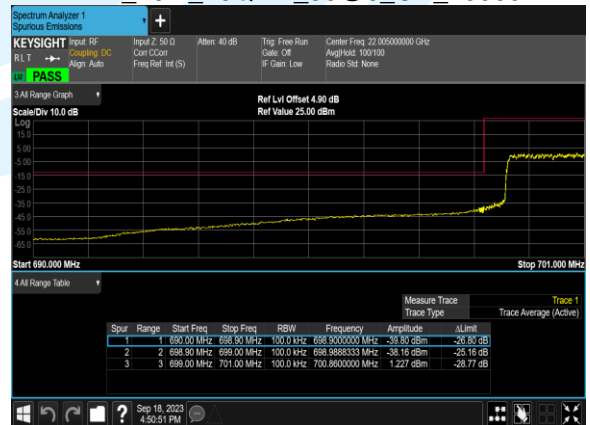
B12\_10M\_QPSK\_50@0\_CH\_23060



B12\_10M\_16QAM\_1@0\_CH\_23060



B12\_10M\_16QAM\_50@0\_CH\_23060



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